

Claims

1. (Currently Amended) A method comprising:

determining a power save status of a first station wherein said first station communicates via a shared-communications channel in accordance with a first modulation scheme; and

responsive to a determination that the first station is not in a power save state,

(i) enabling transmission protection at a second station; and

(ii) from the second station, transmitting a message via the shared-communications channel requesting that a third station enable transmission protection.

2. (Previously Presented) The method of claim 1 wherein determining a power save status of a first station comprises:

transmitting one of a Request-to-Send frame, a Data frame, and a Null frame to the first station via the shared-communications channel in accordance with the first modulation scheme; and

receiving one of an Acknowledgement frame and a Clear-to-Send frame from the first station.

3. (Currently Amended) The method of claim 1 wherein ~~enabling transmission protection~~ transmitting a message via the shared-communications channel requesting that a third station enable transmission protection comprises broadcasting a management frame via the shared-communications channel.

4. (Previously Presented) The method of claim 3 wherein the management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

5. (Currently Amended) The method of claim 1-3 wherein the first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

6. (Currently Amended) A method comprising:

receiving a first frame from a first station via a shared-communications channel wherein the first station communicates in accordance with a first modulation scheme;

determining whether the first station is in power save mode;

in response to receiving the first frame from the first station, enabling transmission protection at a second station and broadcasting from the second station an IEEE 802.11 Probe-Response frame via said the shared-communications channel in response to the receiving of the first frame;

wherein said IEEE 802.11 Probe-Response frame indicates that transmission protection status is active.

7. (Previously Presented) The method of claim 6 wherein the first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

8. (Currently Amended) A method comprising:

determining a power save status of a first station that communicates via a shared-communications channel in accordance with a first modulation scheme;

responsive to determining the power save status of the first station, alternately enabling and disabling transmission protection at ~~the first~~ a second station, wherein the second station is configured to communicate via the shared-communications channel in accordance with the first modulation scheme and a second modulation scheme; and

transmitting a message from the second station via the shared-communications channel indicating a transmission protection status of the second station;

wherein the ~~first-second~~ modulation scheme is undetectable to ~~a-second~~ the first station that communicates via the shared-communications channel in accordance with ~~a-second~~ the first modulation scheme; and

wherein the first modulation scheme and the second modulation scheme are different from each other.

9. (Previously Presented) The method of claim 8 wherein the enabling of transmission protection and the disabling of transmission protection are periodic with respect to one of (i) frames transmitted and (ii) time.

10. (Previously Presented) The method of claim 8 wherein the of transmission protection and the disabling of transmission protection are sporadic with respect to one of (i) frames transmitted and (ii) time.

11. (Currently Amended) The method of claim 8 further comprising extending transmission protection for a first interval when receiving a first frame from the first ~~second~~-station while transmission protection is enabled, wherein the first interval is measured in one of (i) time and (ii) frames.

12. (Currently Amended) The method of claim 8 further comprising activating transmission protection for a first interval when receiving a first frame from the first ~~second~~-station while transmission protection is disabled, wherein said first interval is measured in one of (i) time and (ii) frames.

13. (Currently Amended) The method of claim 8 wherein the transmitting a message from the second station via the shared-communications channel indicating a transmission protection status of the second station ~~enabling of transmission protection~~ comprises transmitting a first management frame via said shared-communications channel.

14. (Previously Presented) The method of claim 13 wherein the first management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

15. (Previously Presented) The method of claim 8:

wherein the first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation; and

wherein the second modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation.

16. (Currently Amended) A method comprising:

transmitting from a first station a first frame comprising a duration field value to a ~~first~~ second station via a shared-communications channel in accordance with a first modulation scheme;

receiving at the first station a second frame from a ~~second~~ third station via the shared-communications channel in accordance with a second modulation scheme during a time interval defined by the duration field value;

determining whether the ~~second~~ third station is in power save mode; and

receiving at the first station a third frame via the shared-communications channel in accordance with said first modulation scheme after the time interval;

wherein the first modulation scheme is undetectable to the ~~second~~ third station; and

wherein the first modulation scheme and the second modulation scheme are different from each other.

17. (Previously Presented) The method of claim 16:

wherein the first modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation; and

wherein the second modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

18. (Previously Presented) The method of claim 16 wherein the transmitting is one of (i) periodic and (ii) sporadic.

19. (Currently Amended) The method of claim 16 wherein the first frame further comprises instructions to refrain from transmitting frames for a time interval ~~is a Clear to Send frame and the first station is the sender of the frame.~~

20. (Currently Amended) An apparatus comprising:

a processor for determining a power save status of a first station wherein the first station communicates via a shared-communications channel in accordance with a first modulation scheme and in response to determining a power save status of the first station, enabling transmission protection at a second station; and

a transmitter for enabling transmission protection at a ~~second~~ third station via the shared-communications channel wherein the enabling of transmission protection at the third station is responsive to a determination of the power save status of the first station.

21. (Currently Amended) The apparatus of claim 20 wherein the enabling of transmission protection at the third station comprises broadcasting a management frame via the shared-communications channel.

22. (Previously Presented) The apparatus of claim 21 wherein the management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

23. (Previously Presented) The apparatus of claim 21 wherein the first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

24. (Currently Amended) An apparatus comprising:

a receiver configured to receive a first frame from a first station via a shared-communications channel wherein the first station communicates in accordance with a first modulation scheme and wherein the receiver is configured to determine whether the first station is in power save mode; and

a transmitter configured to communicate via the shared-communications channel in accordance with the first modulation scheme and a second modulation scheme and configured to broadcast for broadcasting an IEEE 802.11 Probe-Response frame via the shared-communications channel in response to determining whether the first station is in power save mode;

wherein the IEEE 802.11 Probe-Response frame indicates that a transmission protection status is active.

25. (Previously Presented) The apparatus of claim 24 wherein the first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

26. (Currently Amended) An apparatus comprising:

a receiver for receiving in accordance with a first modulation scheme and a second modulation scheme via a shared-communications channel; and

a transmitter for alternately enabling and disabling transmission protection at a first station and at the apparatus responsive to determining that ~~the first~~ a second station is in power save mode, wherein the ~~first~~ second station communicates via a shared-communications channel in accordance with a first modulation scheme;

wherein the first modulation scheme is undetectable to ~~a~~ the second station that communicates via the shared-communications channel in accordance with a second modulation scheme; and

wherein the first modulation scheme and the second modulation scheme are different from each other.

27. (Previously Presented) The apparatus of claim 26 wherein the enabling of transmission protection and the disabling of transmission protection are periodic with respect to one of (i) frames transmitted and (ii) time.

28. (Previously Presented) The apparatus of claim 26 wherein the enabling of transmission protection and the disabling of transmission protection are sporadic with respect to one of (i) frames transmitted and (ii) time.

29. (Previously Presented) The apparatus of claim 26 further comprising extending transmission protection for a first interval when receiving a first frame from the second station while transmission protection is enabled, wherein the first interval is measured in one of (i) time and (ii) frames.

30. (Previously Presented) The apparatus of claim 26 further comprising activating protection for a first interval in response to receiving a first frame from the second station while transmission protection is disabled, wherein the first interval is measured in one of (i) time and (ii) frames.

31. (Previously Presented) The apparatus of claim 26 wherein the enabling of transmission protection comprises transmitting a first management frame via the shared-communications channel.

32. (Previously Presented) The apparatus of claim 31 wherein the first management frame is one of:

- (i) a Beacon frame indicating that protection status is active; and
- (ii) a Probe-Response frame indicating that protection status is active.

33. (Previously Presented) The apparatus of claim 26:

wherein the first modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation; and

wherein the second modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation.

34. (Currently Amended) An apparatus comprising:

a transmitter for transmitting a first frame comprising a duration field value to a first station via a shared-communications channel in accordance with a first modulation scheme and for determining whether ~~the~~a second station is in power save mode; and

a receiver for:

receiving a second frame from ~~a~~ the second station via the shared-communications channel in accordance with a second modulation scheme during a time interval defined by the duration field value; and

receiving a third frame via ~~said~~ the shared-communications channel in accordance with the first modulation scheme after the time interval; and

a processor for enabling transmission protection at the transmitter;

wherein the first modulation scheme is undetectable to the second station; and

wherein the first modulation scheme and the second modulation scheme are different from each other.

35. (Previously Presented) The apparatus of claim 34:

wherein the first modulation scheme is based on Orthogonal Frequency Division Multiplexing modulation; and

wherein the second modulation scheme is based on one of Barker modulation and Complementary Code Keying modulation.

36. (Previously Presented) The apparatus of claim 34 wherein the transmitting is one of (i) periodic and (ii) sporadic.

37. (Currently Amended) The apparatus of claim 34 wherein the first frame further comprises instructions to refrain from transmitting frames for a time interval ~~is a Clear to Send frame and the first station is the sender of the frame.~~